Environment Technology and Instructional Support

2025

ANNUAL REPORT

UNIVERSITY OF WATERLOO | FACULTY OF ENVIRONMENT

ABOUT

Environment Technology and Instructional Support (ETIS) provides technical, and instructional support to students, staff, and faculty members in the Faculty of Environment. Our name reflects the two main pillars of what we do in service of the Faculty of Environment's missions in teaching and research:

Technology Support

ETIS maintains and supports the computing infrastructure of the faculty, including desktop computing, teaching and research computer labs, and servers. We operate a helpdesk where the Environment community can get assistance with technical problems. We provide technical expertise to support teaching and research in key domains in the Faculty of Environment, including geographic information systems (GIS), remote sensing, software development, and digital design.

Instructional Support

ETIS provides expertise and facilities for hands-on experiential learning activities, including the Ecology Lab, the Makerspace, and our computer labs. We support instructors with course material development, workshops, and consultation. Our staff share their expertise with researchers that work in our focus areas.

ETIS has ten employees, plus a liaison from IST who is embedded with us. We collaborate closely with units across campus to share our expertise and learn from others. By having both IT and instructional support functions in the same unit we ensure that the technology environment we provide meets the needs of students, staff, and faculty.

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2025

HIGHLIGHTS

Personnel

ETIS has had several staff changes this year. After 11 years, Bev Raimbault retired as the Ecology Lab Coordinator at the end of 2024. Kelly McLean was hired as her replacement, and we are thrilled to have her on board. Belle Tuen was hired to fill our Geospatial Technology Specialist role and quickly contributed her expertise. Mike Lackner took on some Team Lead duties for our geospatial team, and our IT staff now report to Corey Stadnyk with his revised role of Manager, Information Technology Infrastructure. Finally, Michael Tjendra has been on leave since October 2024. We look forward to having him back this fall.

We would also like to thank the co-op students and work study students that worked with us over the last year: Ariel Chan, Grace Guit, Ashdeep Gill, Jessica Graham-Kellow, Elizabeth Beach, Chloe Wilson, Selina Yang, Ella Williamson, Chloe Greer, and Gwyneth Davies.

IT and Computing

754	**107**	**55%**
Support tickets resolved	Computers purchased and deployed	Growth in support requests

Beyond our day-to-day technical support, ETIS staff (lead on the IT side by Corey Stadnyk) have been working on several projects and initiatives to improve the technical environment that our staff, faculty, and students work in. We upgraded computers and monitors in the Geddes computer lab and rolled over newer PCs to other labs, deployed new software such as AutoCAD and OpenLCA, and ensured our teaching environment meets the needs of our community. Our website has been updated to better inform people about our services.

We regularly work with IST, with our IST liaison Keith Peck, and other campus computing units on institution-wide IT priorities such as responding to security and licensing compliance requests, the Ricoh printer transition, rolling out the new emergency alert software, and becoming the campus leads for deploying ArcGIS.

With respect to infrastructure, we have made improvements to our lab rebuild process to reduce the time from 5-6 days to 3-4 days, upgraded projectors and related documentation, decommissioned 6 old servers, and implemented updated backup, monitoring, and updating procedures for our production servers. Temperature and humidity monitoring has been implemented in our server rooms. Finally, we are starting to leverage Jira Assets to have a better understanding of the IT assets in the faculty.

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ETIS is also heavily involved in providing custom IT solutions for our clients. This includes implementations of server, storage, and vGPU solutions for multiple researchers; PowerApps and custom app solutions for the Ecology Lab, Advancement, and researchers; and solutions and SOPs for departments to manage their files in SharePoint and manage co-op student turnover.

Lastly, we are continuing the process of upgrading/replacing Windows 10 instances in the faculty. This significant work will continue until the Windows 10 support end in October 2025.

Client Service

Our Client Service activities, including the Help Desk, experienced growth this year. To better serve the faculty, under the guidance of Shawn Lotte, the Help Desk returned to a full-day, regular hours model. With this we observed an increase in traffic, particularly at the start of terms and around major project deadlines.

Our Help Desk also underwent a physical transformation, thanks to the assistance of Dan Beaver. A collapsable door that can be raised and lowered enhanced the security of our materials and physical space while allowing easier access.

We also returned to lending services at the Help Desk. Cords, adapters, and other materials can now be checked out using Jira Assets. Due to popular demand, two laptops will be available for staff and faculty to borrow, which will help with the transition from Windows 10 to Windows 11. We continue to provide procurement services and consultation for hardware and software needs in the faculty.

Instructional Support

62	**8**	**>3,600**
Supported Courses	Labs and facilities for experiential learning	Students in supported courses

It was a busy year for the instructional support staff in ETIS as we saw increases in the number of students, courses, and lab sections we support. Requests for staff assistance and demand on our spaces continues to grow, and we are working with colleagues in the faculty to ensure activities continue to be supported safely in the face of the increased demand. Specifics about each area we support can be found in the sections that follow.

Ecology Lab

The Ecology Lab supported 16 undergraduate course offerings with over 1,150 students enrolled in these courses. Anne Grant and Kelly McLean ensured safe experiential learning activities for these students.

Outreach activities continue with numerous campus tours, and outreach programming to high school groups, including supporting the regional and provincial high school competition, Envirothon. Within the ENV community, workshops and events included the popular natural soap making, beeswax wraps, and solid perfume workshops, nature walks, as well as the Holiday open house and participating in the ENVigorate festival. The Lab team contributed to fall and spring open houses, and alumni weekend. We engaged with over 1,200 participants & visitors.

Total Students Supported by Subject Code: Ecology Lab

Subject ● ENVS ● ERS ● GEOG

Report Year	ENVS	ERS	GEOG	Total
2023-24	453	184	529	1166
2024-25	448	162	560	1170

The Lab has a strong connection with the Sustainability Office, where students participate in campus natural space improvements, inventorying and pulling the invasive shrub European Buckthorn in the Healing Forest, planting trees, and installing sediment traps in Laurel creek.

The ENV naturalized gardens continue to be maintained by the Lab team with several student assistants contributing to the maintenance.

The Lab received silver level certification through the UW Green Labs program.

The President's display case featured the Ecology Lab's collection of specimens and equipment used in providing students with experiential learning opportunities.

Makerspace

The ENV Makerspace continues to be highly active supporting design and fabrication activities for teaching, research, and administration. Dan Beaver and the Makerspace provided support to INTEG 121, 320/321, 420, and PLAN 313. This support included more than 40 projects of various sizes. Support continued for KIX with the KIX 2025 exhibit, where Knowledge Integration students displayed the results of their INTEG 320/321 group projects. A virtual walkthrough of the exhibits was also captured. Additionally, the Makerspace provided support to courses in the Ecology Lab by building custom teaching equipment such as wind tunnels.

Beyond direct instructional support, the Makerspace supported another 52 requests for projects of various sizes. These requests ranged from helping to design and fabricate research equipment to be used in faculty research labs as well as in the field, support for outreach programs, and repairing equipment and furniture in the faculty to avoid having to replace items.

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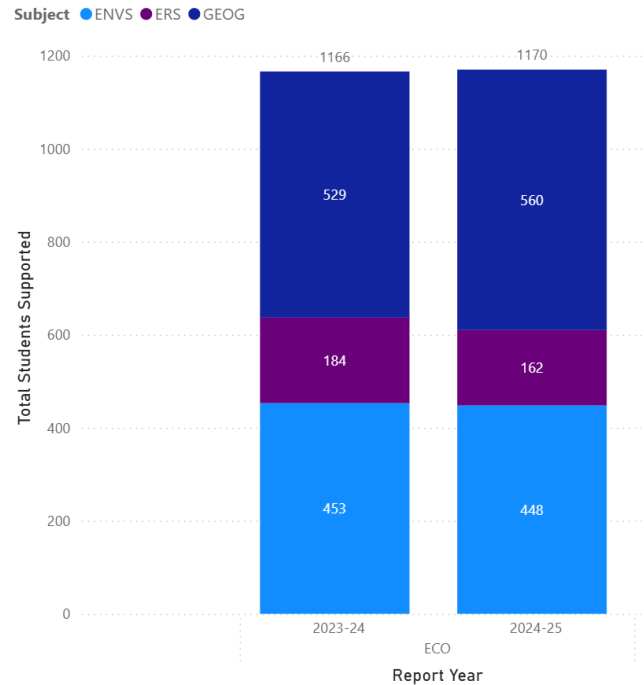
For outreach, the Makerspace hosted and supported workshops for SHAD, ENVigorate 2025, and Envirothon. In addition, the Makerspace is regularly called on to create gifts and take-home items for outreach event visitors as well as other faculty events.

We undertook several projects to improve the working environment of the Makerspace and to make it safer for users. This includes new outlets, a new sound system using re-purposed components, and smart control of the air cleaners that adapts to current dust levels. The Makerspace also built out more of its digital footprint with significant updates to its website to better guide users on what is available, as well as equipment training modules on LEARN which are still under development.

Lastly, the AMBIENTE project that the Makerspace contributed significantly to over the last 2 years won the Environmental Excellence award from Arizona Forward.

Geospatial Support

The ETIS Geospatial Support team provided direct instructional support (workshops, creating assignments and course material, TA training, etc.) for 20 courses from S2024 to W2025, and 1,527 students. Most of these courses also make use of our computer labs. Another 859 students (up from just under 700 the year before) used our computer labs for classes we are not directly involved in. This growth is driven predominantly by Planning's increased use of the Geddes lab since the closure of DMC.

A selection of activities from our staff includes:

Belle Tuen worked with the Ecology Lab to support the use of Esri's Survey123 in ENVS 200, leveraging the ArcGIS Online platform.

James McCarthy worked with Peter Deadman, Peter Johnson, and CEL to complete the online version GEOG 281, which will be offered for the first time in S2025. This will be a significant addition to the suite of online courses ENV can offer to the University community.

We have begun an initiative to streamline the course support we offer to better serve instructors and make our services more well known, consistent, and accessible across the faculty. This will continue in the upcoming year with Mike Lackner leading the work as part of his new Team Lead duties.

The geospatial support team has worked to strengthen connections with the ENV student population,

Total Students Supported by Subject Code: Geospatial and Computer Labs

Subject ● ENVS ● GEOG ● PLAN
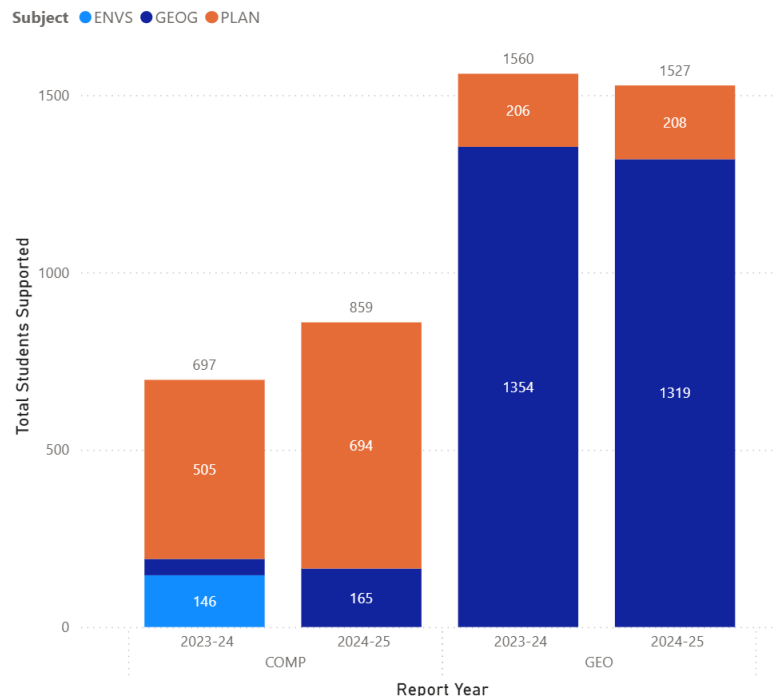
COMP - Courses using computer labs without instructional support
GEO - Courses using geospatial team instructional support as well as computer labs

including liaising with EGSA and ESS and attending meetings to promote our services. We also

support the University's involvement in the Esri Canada Centres of Excellence program including the Student Associate program.

Scott MacFarlane continues to provide GIS support and expertise to other units on campus such as Plant Operations and IST as they attempt to modernize their workflows with spatial information and is the primary support person for the University's Esri site license.

The geospatial team also continues to work with other units on campus to support events like GIS Day; to manage course bookings that use our labs and optimize the use of our spaces; and to share equipment with other faculties (such as Engineering's surveying equipment) to support our courses and maximize campus resources.

ETIS Supported Courses

A non-exhaustive list of the courses we supported follows:

Spring 2024: ENVS 200 | ERS 283, 340, 341 | GEOG 209, 310 | PLAN 313, 350, 647

Fall 2024: ENVS 200 | ERS 315, 403 | GEOG 100, 181, 187, 205, 271, 281, 294, 310, 316, 319, 371, 387, 391, 403, 481 | INTEG 320 | PLAN 210, 281, 309, 320, 353, 646

Winter 2025: ENVS 200, 469 | ERS 346 | GEOG 181, 209, 281, 318, 320, 371, 381, 391, 407, 471, 481, 487, 604, 607 | INTEG 121, 321, 420B | PLAN 110, 203, 211, 281, 353, 381, 481, 487, 720

Committees

ETIS continues working with our counterparts across campus on a variety of committees, including CTSC (Computing Technology and Services Committee), WNAG (Waterloo Nexus Advisory Group), MacTUG (Macintosh Technical User Group), FACCUS (Faculty Computing User Support Group), IT Governance Working Group, Faculty Health and Safety Committee, PDAG (IT Professional Development Advisory Group), Faculty Council, FLIEs, WatITis organizing committee, Campus IT Asset Management Project, Campus Map Steering Committee.

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2025-26

INITIATIVES

Graduate Database | Implement Graduate Student information database

We are working on implementing a shared system for managing graduate student records and information across the faculty. This aligns with the vision to have a centralized graduate school. Having all graduate administrators using the same system for managing this information will be a significant step in shared administration capabilities. To avoid duplication of effort, we will be implementing a system already in use in the Faculty of Engineering, with their assistance. We anticipate that this system will be running in a pilot phase with a base level of data by the end of Winter 2026, and with plans for future additions in place as well.

Research Database | Collect information about researchers and activities

Working with the AD Research and Research Coordinator, we have begun implementation of a system for collecting and managing records about research activities in the faculty, specifically grants, awards, expertise, and research themes. This work is to support the Environment 2035 goal of enhancing our research capabilities in our four main areas of strength. Providing a place for management of this information will be valuable to graduate administrators, communications staff, the AD Research, and many others across the faculty. A pilot was started in Winter 2025, and we will evaluate what other improvements can be made over the upcoming year.

Instructional Support Guidelines | Guidance on accessing ETIS services

Our instructional support staff have always provided support to instructors in Environment in a variety of ways. These supports are often specific to the relationship between the staff member and the instructor and can vary widely from employee to employee and course to course. With increased demands on our resources and the current budget situation, we need to make sure our resources are available to instructors who need them. In S2025 we will be publishing information about how instructors can access our services in a more standard way, and what services are within our capabilities and scope to support. This work is starting with the geospatial support we provide, however over the course of 2025-26 we will evaluate whether this model could also serve the Ecology Lab and Makerspace based on our findings.

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